

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2006/310450

A. CLASSIFICATION OF SUBJECT MATTER

C07C211/45(2006.01)i, C07C233/25(2006.01)i, C07C275/32(2006.01)i,
C07D295/02(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C07C211/00, C07C233/00, C07C275/00, C07D295/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2006
Kokai Jitsuyo Shinan Koho 1971-2006 Toroku Jitsuyo Shinan Koho 1994-2006

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CA (STN), REGISTRY (STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 2005/63705 A1 (Eisai Co., Ltd.), 14 July, 2005 (14.07.05), & US 2005/261291 A1	1-11
E, X	WO 2006/68058 A1 (Eisai R&D Management Kabushiki Kaisha), 29 June, 2006 (29.06.06), (Family: none)	1-11
A	FLEMING, Ian et al., Two new oxindole syntheses, Journal of the Chemical Society, Perkin Transactions 1, (1986), (2), pages 349 to 359	1-11

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
07 August, 2006 (07.08.06)

Date of mailing of the international search report
15 August, 2006 (15.08.06)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/023166

A. CLASSIFICATION OF SUBJECT MATTER

C07D295/04(2006.01), A61K31/495(2006.01), A61P1/04(2006.01), A61P11/06(2006.01), A61P17/06(2006.01), A61P25/00(2006.01), A61P29/00(2006.01), A61P37/06(2006.01), A61P37/08(2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C07D295/04, A61K31/495

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2006
Kokai Jitsuyo Shinan Koho	1971-2006	Toroku Jitsuyo Shinan Koho	1994-2006

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

REGISTRY (STN), CAOLD (STN), CAPLUS (STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 2005/063705 A1 (Eisai Co., Ltd.), 14 July, 2005 (14.07.05), Full text; particularly, Claims; example 9 & US 2005/261291 A1	1-13
A	JP 2004-523529 A (Eli Lilly and Co.), 05 August, 2004 (05.08.04), Full text; particularly, example 119 & WO 2002/059108 A1 & EP 1368340 A1 & US 2004/092507 A1 & CA 2431996 A	1-13

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"&" document member of the same patent family

Date of the actual completion of the international search
02 February, 2006 (02.02.06)

Date of mailing of the international search report
14 February, 2006 (14.02.06)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/023166

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	COWART, Marlon et al., Discovery of 2-(4-Pyridin-2-yl piperazin-1-ylmethyl)-1H-benzimidazole (ABT-724), a Dopaminergic Agent with a Novel Mode of Action for the Potential Treatment of Erectile Dysfunction, Journal of Medicinal Chemistry, 15 July, 2004 (15.07.04), Vol.47, No.15, pages 3853 to 3864	1-13
A	WO 2003/089410 A1 (Kyowa Hakko Kogyo Co., Ltd.), 30 October, 2003 (30.10.03), Full text; particularly, Claims (Family: none)	1-13
A	JP 2003-192673 A (Bayer AG.), 09 July, 2003 (09.07.03), Full text; particularly, Claims (Family: none)	1-13

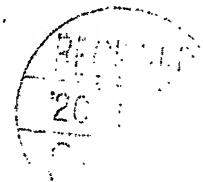
From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY
(CHAPTER I OR CHAPTER II
OF THE PATENT COOPERATION TREATY)
(PCT Rules 44bis.3(c) and 72.2)

To:

HASEGAWA, Yoshiki
SOEI PATENT AND LAW FIRM
Ginza First Bldg.
10-6, Ginza 1-chome
Chuo-ku, Tokyo
1040061
JAPON



Date of mailing (<i>day/month/year</i>) 03 January 2008 (03.01.2008)	
Applicant's or agent's file reference FP06-0200-00	IMPORTANT NOTIFICATION
International application No. PCT/JP2006/311900	International filing date (<i>day/month/year</i>) 14 June 2006 (14.06.2006)
Applicant Eisai R & D Management Co., Ltd. et al	

1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

EP

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Yoshiko Kuwahara

Facsimile No. +41 22 338 82 70

e-mail: pt07.pct@wipo.int



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FP06-0200-00	FOR FURTHER ACTION		See item 4 below
International application No. PCT/JP2006/311900	International filing date (<i>day/month/year</i>) 14 June 2006 (14.06.2006)	Priority date (<i>day/month/year</i>) 14 June 2005 (14.06.2005)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant Eisai R & D Management Co., Ltd.			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement |
| <input checked="" type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 17 December 2007 (17.12.2007)
	Authorized officer Yoshiko Kuwahara e-mail: pt07.pct@wipo.int

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

TRANSLATION

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing
(day/month/year)

Applicant's or agent's file reference

FP06-0200-00

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2006/311900

International filing date (day/month/year)

14.06.2006

Priority date (day/month/year)

14.06.2005

International Patent Classification (IPC) or both national classification and IPC

Applicant

Eisai R & D Management Co., Ltd.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Date of completion of this opinion

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2006/311900

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
☐ the translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed
☐ filed together with the international application in electronic form
☐ furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/JP2006/311900

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability:
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-29	YES
	Claims	NO
Inventive step (IS)	Claims 1-29	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-29	YES
	Claims	NO

2. Citations and explanations:

Document 1: JP, 2004-523529, A
Document 2: JP, 5-186434, A
Document 3: JP, 2003-506377, A
Document 4: JP, 2005-505621, A

Claims 1-29:

The subject matters of claims 1-29 appear to be novel and to involve an inventive step in view of documents 1-4 cited in the ISR.

While documents 1 and 2 describe compounds in which 2-cyclopropylphenyl binds to the nitrogen of piperazine, neither of them describes or suggests the compounds of the general formulas (1) and (100) of the present application.

While documents 3 and 4 describe compounds useful as a therapeutic agent for inflammatory affection, neither of them describes or suggests the compounds of the general formulas (1) and (100) of the present application.

Even considering the descriptions of documents 1-4, it is not considered to be obvious for a person skilled in the art to arrive at the compounds of the general formulas (1) and (100) of the present application either.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/JP2006/311900

Box No. VI Certain documents cited

1. Certain published documents (Rule 43bis.1 and 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO 2005/063705 A1 [E X]	14.07.2005	24.12.2004	26.12.2003

2. Non-written disclosures (Rule 43bis.1 and 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2006/311900

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Int. Cl.

C07D207/08 (2006.01) i, A61K31/495 (2006.01) i,
A61K31/496 (2006.01) i, A61K31/5377 (2006.01) i,
A61K31/538 (2006.01) i, A61K31/54 (2006.01) i,
A61P1/04 (2006.01) i, A61P11/06 (2006.01) i,
A61P17/06 (2006.01) i, A61P19/02 (2006.01) i,
A61P25/00 (2006.01) i, A61P29/00 (2006.01) i,
A61P37/02 (2006.01) i, A61P37/08 (2006.01) i,
A61P43/00 (2006.01) i, C07D207/27 (2006.01) i,
C07D207/404 (2006.01) i, C07D211/22 (2006.01) i,
C07D211/46 (2006.01) i, C07D211/58 (2006.01) i,
C07D211/62 (2006.01) i, C07D211/74 (2006.01) i,
C07D211/76 (2006.01) i, C07D211/88 (2006.01) i,
C07D213/64 (2006.01) i, C07D263/56 (2006.01) i,
C07D265/36 (2006.01) i, C07D277/64 (2006.01) i,
C07D279/12 (2006.01) i, C07D295/02 (2006.01) i,
C07D295/08 (2006.01) i, C07D295/10 (2006.01) i,
C07D295/12 (2006.01) i, C07D295/14 (2006.01) i,
C07D295/18 (2006.01) i, C07D295/20 (2006.01) i,
C07D309/14 (2006.01) i, C07D317/66 (2006.01) i,
C07D319/18 (2006.01) i, C07D407/12 (2006.01) i,
C07D413/12 (2006.01) i, C07D491/113 (2006.01) i

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FP04-0243-00	FOR FURTHER ACTION	See item 4 below
International application No. PCT/JP2004/019795	International filing date (<i>day/month/year</i>) 24 December 2004 (24.12.2004)	Priority date (<i>day/month/year</i>) 26 December 2003 (26.12.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant EISAI CO., LTD.		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 <i>bis</i> .1(a).																
2.	<p>This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;"><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/> Box No. I	Basis of the report	<input type="checkbox"/> Box No. II	Priority	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/> Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No. VI	Certain documents cited	<input type="checkbox"/> Box No. VII	Certain defects in the international application	<input type="checkbox"/> Box No. VIII	Certain observations on the international application
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<input type="checkbox"/> Box No. VIII	Certain observations on the international application																
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Date of issuance of this report 22 August 2006 (22.08.2006)</td> </tr> <tr> <td style="padding: 2px;">Authorized officer Masashi Honda</td> </tr> <tr> <td style="padding: 2px;">e-mail: pt08@wipo.int</td> </tr> </table>	Date of issuance of this report 22 August 2006 (22.08.2006)	Authorized officer Masashi Honda	e-mail: pt08@wipo.int
Date of issuance of this report 22 August 2006 (22.08.2006)				
Authorized officer Masashi Honda				
e-mail: pt08@wipo.int				

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference FP04-0243-00		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/JP2004/019795	International filing date (day/month/year) 24.12.2004	Priority date (day/month/year) 26.12.2003	
International Patent Classification (IPC) or both national classification and IPC			
Applicant EISAI CO., LTD.			

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/019795

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐

This opinion has been established on the basis of a translation from the original language into the following language

_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☐

in written format

☐

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed.

☐

filed together with the international application in computer readable form.

☐

furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/019795

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-26</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims <u>1-26</u>	YES
	Claims _____	NO
Industrial applicability (IA)	Claims <u>1-26</u>	YES
	Claims _____	NO

2. Citations and explanations:

1. WO 02/059108 A1
2. JP 5-186434 A
3. JP 2003-506377 A
4. WO 03/033466 A1

Claims 1-26

The inventions described in claims 1-26 appear to be novel and involve an inventive step over documents 1-4.

Documents 1 and 2 describe a compound such that a phenyl group to which piperazine is bonded has a cycloalkyl at ortho; however, they neither describe nor suggest a compound of the present application. Also, the medicine containing as an effective component the above compound described in document 1 is to be applied for therapy of obesity, diabetes, or sexual dysfunction, whereas the medicine containing as an effective component the above compound described in document 2 is to be applied for therapy of inflammatory diseases of intestine, urination disorder, or pollakiuria.

Meanwhile, documents 3 and 4 describe a compound containing a piperazine, piperidine or tetrahydropyridine bonded to a phenyl group, and a medicine containing such compound as an effective component used for inflammatory diseases (see document 3), autoimmune diseases, multiple sclerosis, asthma, rheumatic arthritis, Crohn's disease, ulcerative colitis, psoriasis, atopic dermatitis (see document 4) and the like; however, they neither describe nor suggest the compound of the present application.

Thus, even in view of the descriptions in documents 1-4, it would not be obvious to a party skilled in the art to conceive of the compound of the present application.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/019795

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: IPC

Int. C17

C07D213/36, 213/64, 213/75, 233/04, 241/18, 257/04, 261/08, 265/30, 265/32,
271/10, 277/28, 295/08, 295/12, 295/14, 295/18, 307/52, 309/04, 333/20, 335/02,
405/12, 413/12, 487/08, A61K31/381, 31/382, 31/40, 31/407, 31/4418, 31/451,
31/4525, 31/453, 31/495, 31/496, 31/4965, 31/5375, 31/5377, 31/55, A61P1/00,
1/04, 11/06, 17/00, 17/06, 19/02, 37/06, 37/08, 43/00

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FP05-0405-00	FOR FURTHER ACTION	See item 4 below
International application No. PCT/JP2005/023166	International filing date (<i>day/month/year</i>) 16 December 2005 (16.12.2005)	Priority date (<i>day/month/year</i>) 20 December 2004 (20.12.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant Eisai R & D Management Co., Ltd.		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).																								
2.	This REPORT consists of a total of 6 sheets, including this cover sheet. In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input checked="" type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/>	Box No. I	Basis of the report																							
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<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																							
<input checked="" type="checkbox"/>	Box No. VI	Certain documents cited																							
<input type="checkbox"/>	Box No. VII	Certain defects in the international application																							
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																							
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	<table style="width: 100%;"> <tr> <td style="width: 50%;">Date of issuance of this report 26 June 2007 (26.06.2007)</td> <td style="width: 50%;">Authorized officer Masashi Honda</td> </tr> <tr> <td colspan="2">e-mail: pt08.pct@wipo.int</td> </tr> </table>	Date of issuance of this report 26 June 2007 (26.06.2007)	Authorized officer Masashi Honda	e-mail: pt08.pct@wipo.int	
Date of issuance of this report 26 June 2007 (26.06.2007)	Authorized officer Masashi Honda				
e-mail: pt08.pct@wipo.int					

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing
(day/month/year)

Applicant's or agent's file reference

FP05-0405-00

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2005/023166

International filing date (day/month/year)

16.12.2005

Priority date (day/month/year)

20.12.2004

International Patent Classification (IPC) or both national classification and IPC

Applicant

Eisai R & D Management Co., Ltd.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Date of completion of this opinion

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/023166

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
☐ the translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed
☐ filed together with the international application in electronic form
☐ furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/023166

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-13	YES
	Claims	NO
Inventive step (IS)	Claims 1-13	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-13	YES
	Claims	NO

2. Citations and explanations:

(Documents)

1. JP 2004-523529 A (Eli Lilly and Co.) 05 August 2004
2. Journal of Medicinal Chemistry, 15 July 2004, Vol. 47, No. 15, p. 3853-3864
3. WO 2003/089410 A1 (Kyowa Hakko Kogyo Co., Ltd.) 30 October 2003
4. JP 2003-192673 A (Bayer Aktiengesellschaft) 09 July 2003

(Explanation)

Claims 1-13

The inventions in claims 1-13 appear to possess novelty and involve an inventive step based on documents 1-4 cited in the ISR.

Documents 1 and 2 describe compounds having benzene ring structures substituted by a 1-position cyclohexyl and a 2-position piperazinyl, respectively (document 1: example 119, document 2: compd. 45), but neither describe nor suggest these compounds as having leukocyte adhesion and infiltration effects or anti-inflammatory effects, or the chemical structure of 1-cyclopropylmethyl-4-[2-(3,3,5,5-tetramethylcyclohexyl)phenyl]piperazine described in claims 1-13 of the present application.

In addition, although documents 3 and 4 describe phenylpiperazine compound having anti-inflammatory effects, respectively, they do not describe or suggest the chemical structure of 1-cyclopropylmethyl-4-[2-(3,3,5,5-tetramethylcyclohexyl)phenyl]piperazine described in claims 1-13 of the present application.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/023166

Box No. VI Certain documents cited

1. Certain published documents (Rule 43bis.1 and 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO 2005/063705 A1	14.07.2005	24.12.2004	26.12.2003
[EX]			

2. Non-written disclosures (Rule 43bis.1 and 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/023166

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: International Patent Classification (IPC)

Int. Cl. *A61P29/00* (2006.01), *A61P37/06* (2006.01), *A61P37/08* (2006.01)